Claims

1. A priming device of a detonator, having an electrical power supply providing a first intensity (I1) to a circuit having means (30) for timing the action of a firing element (12) of a primer (13) and to means (35) capable of generating, upon expiration of the timing interval, a second intensity (I2) sufficient to actuate said element (12), the first (I1) intensity emerging from the power supply not being sufficient.

2. The device as defined in Claim 1, wherein the means (35) are constituted by a capacitor (36), switching means (41, 50, 55), and means for controlling said switching means allowing said capacitor (36) to be charged for a charging time (Tp2), then discharged, said discharge causing the element (12) to act on the primer (13).

3. A priming device of a detonator, having an electrical power supply[,] means (30) for timing the action of a firing element (12) of a primer (13), and means (35) capable of generating, upon expiration of the timing interval, an intensity sufficient to actuate said element (12), said means (35) having a capacitor (36), switching means (41, 50, 55), and means for controlling said switching means allowing said capacitor (36) to be charged for a charging time (Tp2), then discharged, said discharge causing the element (12) to act on the primer (13), the control means being constituted by a microcontroller (40).

4. The device as defined in either one of Claims 2 or 3, wherein the switching means are constituted by transistors (50, 55).

5. The device as defined in any one of Claims 1 through 4, wherein the timing means have means (32) for programming the timing interval.

6. The device as defined in Claim 5, wherein said programming means (32) have at least one code wheel (38) electrically connected to the microcontroller (40).

7. The device as defined in Claim 6, wherein the code wheel (38) is luminescent.

8. The device as defined in Claim 5, wherein said programming means have

external programming means (100) as well as means (101) for transferring programmed data from said external means to the microcontroller (40).

9. The device as defined in Claim 8, wherein the external means have an electrical power supply (110), a microcontroller (140), a display (145), two programming switches (146, 147); and the transfer means are constituted by phototransistors (48, 49, 148, 149).

10. The device as defined in Claim 8, wherein the external programming means (100) are constituted by a microcomputer; and the information transfer means (101) have an electrical connector connected to the microcontroller (40).

11. The device as defined in any one of the foregoing claims, wherein it has mechanical timing means (41).

12. The device as defined in any one of Claims 4 through 11, wherein it has booby-trap means (200) or means for deliberately anticipating firing of the primer (13).

13. The device as defined in the previous claim, wherein said booby-trap means have a tripwire connected to the microcontroller (40).

Add A1 A3 d3

Sub A2